

Appl. No. 10/687,548
Amdt. Dated December 15, 2005
Reply to Office Action of September 15, 2005

Attorney Docket No. 81751.0067
Customer No.: 26021

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-9. (Canceled).

10. (Original) An optical module comprising:

a first circuit chip having a first electrode on the front surface of the first circuit chip;

a second circuit chip having a second electrode on the front surface of the second circuit chip, the rear surface of the second circuit chip being affixed to the rear surface of the first circuit chip;

a first optical chip having a third electrode and a first optical portion on the front surface of the first optical chip, the rear surface of the first optical chip being affixed to the front surface of the first circuit chip;

a second optical chip having a fourth electrode and a second optical portion on the front surface of the second optical chip, the rear surface of the second optical chip being affixed to the front surface of the second circuit chip;

a first wiring substrate including a first substrate and a first wiring pattern provided on the first substrate, the first substrate having a first aperture portion disposed in a manner that the first optical portion faces the first aperture portion, the first wiring pattern being electrically connected to the first electrode and the third electrode; and

a second wiring substrate including a second substrate and a second wiring pattern provided on the second substrate, the second substrate having a second aperture portion disposed in a manner that the second optical portion faces the

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second aperture portion, the second wiring pattern being electrically connected to the second electrode and the fourth electrode,

wherein the first substrate has a first bent portion inclined from the third electrode to the first electrode,

wherein the first wiring pattern extends along the first bent portion,

wherein the second substrate has a second bent portion inclined from the second electrode to the fourth electrode, and

wherein the second wiring pattern extends along the second bent portion.

11. (Original) An optical module comprising:

a first circuit chip having a first electrode on the front surface of the first circuit chip;

a second circuit chip having a second electrode on the front surface of the second circuit chip, the rear surface of the second circuit chip being affixed to the rear surface of the first circuit chip;

a first optical chip having a third electrode and a first optical portion on the front surface of the first optical chip, the rear surface of the first optical chip being affixed to the front surface of the first circuit chip;

a second optical chip having a fourth electrode and a second optical portion on the front surface of the second optical chip, the rear surface of the second optical chip being affixed to the front surface of the second circuit chip; and

a wiring substrate including a substrate, a first wiring pattern provided on the substrate, and a second wiring pattern provided on the substrate, the substrate having a first aperture portion disposed in a manner that the first optical portion faces the first aperture portion and a second aperture portion disposed in a manner that the second optical portion faces the second aperture portion, the first wiring pattern being electrically connected to the first electrode and the third electrode, the

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second wiring pattern being electrically connected to the second electrode and the fourth electrode,

wherein the substrate has a first bent portion inclined from the third electrode to the first electrode and a second bent portion inclined from the second electrode to the fourth electrode;

wherein the first wiring pattern extends along the first bent portion; and wherein the second wiring pattern extends along the second bent portion.

12. (Original) The optical module as defined by claim 10,
wherein the second optical chip overlaps the first optical chip.
13. (Original) The optical module as defined by claim 11,
wherein the second optical chip overlaps the first optical chip.
14. (Original) The optical module as defined by claim 10, further comprising:
a first lens disposed at a distance from the optical portion of the first optical chip;
a second lens disposed at a distance from the optical portion of the second optical chip;
a first casing provided so as to hold the first lens and also surround at least the first optical portion; and
a second casing provided so as to hold the second lens and also surround at least the second optical portion.
15. (Original) The optical module as defined by claim 11, further comprising:
a first lens disposed at a distance from the optical portion of the first optical chip;

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a second lens disposed at a distance from the optical portion of the second optical chip;

a first casing provided so as to hold the first lens and also surround at least the first optical portion; and

a second casing provided so as to hold the second lens and also surround at least the second optical portion.

16. (Canceled).

17. (Original) A circuit board on which is mounted the optical module as defined by claim 10.

18. (Original) A circuit board on which is mounted the optical module as defined by claim 11.

19. (Canceled).

20. (Original) An electronic instrument comprising the optical module as defined by claim 10.

21. (Original) An electronic instrument comprising the optical module as defined by claim 11.

22-25. (Canceled).